River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE—contd.					
Cape Fear:	*Feet*			*Feet*	
Moncure, N. C.	22	Mar. 7	Mar. 7	25.7	Mar. 7.
Fayetteville, N. C.	35	Mar. 8	Mar. 9	42.7	Mar. 8.
Elizabethtown, N. C.	22	do	Mar. 12	30.4	Mar. 10.
Peedee:					
Cheraw, S. C.	27	Mar. 7	Mar. 9	33.3	Mar. 8.
Mars Bluff Bridge, S. C.	17	Mar. 9	Mar. 16	20.1	Mar. 12.
Poston, S. C.	18	Mar. 13	Mar. 18	19.7	Mar. 15.
Saluda: Pelzer, S. C.	7	Mar. 22	Mar. 23	7.8	Mar. 23.
Broad: Blairs, S. C.	15	Mar. 6	Mar. 7	18.3	Mar. 7.
Wateree: Camden, S. C.	24	Mar. 7	Mar. 8	24.7	Mar. 8.
Santee:					
Rimini, S. C.	12	Mar. 8	Mar. 18	14.7	Mar. 11.
		Mar. 25	Mar. 28	12.4	Mar. 27.
Ferguson, S. C.	12	Mar. 7	Mar. 21	13.6	Mar. 12.
		Mar. 25	Mar. 28	12.2	Mar. 28.
Savannah: Ellenton, S. C.	14	Feb. 15	Mar. 1	20.0	Feb. 25.
		Mar. 7	Mar. 12	18.2	Mar. 10.
		Mar. 24	Mar. 29	17.3	Mar. 26.
Ogeechee:					
Dover, Ga.	7	Mar. 2	Mar. 3	7.2	Mar. 2.
		Mar. 11	Mar. 13	7.1	Mar. 12.
		Mar. 15	Mar. 17	7.2	Mar. 16.
Meldrim, Ga.	9	Mar. 21	Mar. 21	9.0	Mar. 21.
EAST GULF OF MEXICO DRAINAGE					
Cahaba: Centerville, Ala.	23	Mar. 31	Apr. 1	30.0	Mar. 31.
Pearl: Jackson, Miss.	22	Feb. 22	Mar. 8	29.1	Feb. 28, 29.
West Pearl: Pearl River, La.	13	Feb. 25	Mar. 17	15.2	Feb. 26–29.
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Rock: Moline Bridge, Ill.	10	Mar. 30	Apr. 2	10.2	Apr. 1.
Raccoon: Van Meter, Iowa	13	Mar. 2	Mar. 5	14.2	Mar. 4.
Des Moines:					
Tracy, Iowa	14	Mar. 5	Mar. 9	15.4	Mar. 7.
Ottumwa, Iowa	10	Mar. 6	do	11.5	Do.
Illinois: Peru, Ill.	14	Mar. 5	Mar. 7	14.8	Mar. 5.
		Mar. 9	Mar. 12	14.1	Mar. 11.
		Mar. 27	Apr. 9	16.0	Mar. 30.
Missouri Basin					
Big Sioux: Akron, Iowa	12	Mar. 28	Mar. 30	14.9	Mar. 29.
Missouri: Yankton, S. Dak.	12	Mar. 18	Mar. 25	14.8	Mar. 22.
Ohio Basin					
Monongahela: Lock 15, Hoult, W. Va.	22	Mar. 28	Mar. 29	22.0	Mar. 28, 29.
Little Kanawha:					
Glenville, W. Va.	23	Mar. 17	Mar. 18	25.0	Mar. 17.
		Mar. 28	Mar. 29	24.0	Mar. 28.
Creston, W. Va.	20	Mar. 18	Mar. 18	20.7	Mar. 18.
		Mar. 28	Mar. 29	21.3	Mar. 28.
Elk: Clay, W. Va.	18	Mar. 18	Mar. 18	18.2	Mar. 18.
Green:					
Munfordville, Ky.	28	Mar. 29	Mar. 31	29.0	Mar. 30.
Lock 6, Brownsville, Ky.	28	Mar. 30	Apr. 1	29.6	Mar. 31.
Lock 4, Woodbury, Ky.	33	Mar. 29	Apr. 3	37.1	Apr. 1.
Lock 2, Rumsey, Ky.	34	Mar. 31	Apr. 8	37.2	Apr. 5.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM—continued					
Arkansas Basin					
Petit Jean: Danville, Ark.	*Feet* 20	Mar. 29	Mar. 30	*Feet* 21.7	Mar. 30.
Arkansas: Yancopin, Ark.	29	Jan. 8	Mar. 11	40.2	Feb. 24, 25.
Red Basin					
Sulphur: Ringo Crossing, Tex.	20	Mar. 6	Mar. 6	20.4	Mar. 6.
Lake Bisteneau: Ninock, La.	28	Feb. 20	Mar. 10	32.4	Feb. 26, 27.
Lower Mississippi Basin					
Tallahatchie: Swan Lake, Miss.	24	Dec. 15	Mar. 29	35.0	Jan. 15.
Yazoo:					
Greenwood, Miss.	35	Dec. 23	Mar. 17	40.1	Jan. 19, 20.
Yazoo City, Miss.	23	Dec. 31	(1)	32.0	Feb. 21.
Ouachita: Monroe, La.	40	Dec. 25	(1)	48.9	Feb. 26–28.
Black: Jonesville, La.	50	Jan. 13	(1)	55.6	Mar. 5–8.
Mississippi:					
Helena, Ark.	44	Jan. 31	Mar. 3	49.2	Feb. 22.
Arkansas City, Ark.	48	Jan. 28	Mar. 6	53.4	Feb. 25, 26.
Greenville, Miss.	42	Jan. 30	do	47.0	Feb. 26, 27.
Vicksburg, Miss.	45	Jan. 28	Mar. 13	51.9	Feb. 28, 29.
Natchez, Miss.	46	Feb. 1	Mar. 16	52.6	Mar. 1, 2, 4.
Angola, La.	45	do	Mar. 20	52.3	Mar. 6.
Baton Rouge, La.	35	do	Mar. 21	42.8	Mar. 5, 6.
Plaquemine, La.	31	do	do	38.3	Mar. 6.
Donaldsonville, La.	28	Feb. 4	Mar. 20	33.5	Mar. 5, 6.
Reserve, La.	22	Feb. 8	Mar. 18	25.2	Mar. 5–8.
New Orleans, La.	17	Feb. 10	Mar. 17	19.2	Mar. 5.
Atchafalaya Basin					
Atchafalaya:					
Simmesport, La.	41	Feb. 3	Mar. 21	47.7	Mar. 7.
Melville, La.	37	Jan. 30	Mar. 23	42.8	Mar. 5–7.
Atchafalaya, La.	22	Dec. 27	(1)	24.9	Mar. 3–5.
WEST GULF OF MEXICO DRAINAGE					
Trinity:					
Dallas, Tex.	28	Feb. 16	Mar. 1	36.8	Feb. 18.
		Mar. 6	Mar. 6	28.7	Mar. 6.
Trinidad, Tex.	28	Feb. 19	Mar. 11	40.0	Feb. 24.
Liberty, Tex.	25	Jan. 9	Mar. 23	27.8	Feb. 28, 29.
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Middle Fork: Eula, Oreg.	13	Mar. 19	Mar. 19	14.7	Mar. 19.
Coast Fork: Saginaw, Oreg.	9	Mar. 18	do	11.1	Do.
Long Tom: Monroe, Oreg.	10	Mar. 19	Mar. 27	12.1	Mar. 21.
Santiam: Jefferson, Oreg.	10	Mar. 17	Mar. 20	15.5	Mar. 19.
Willamette:					
Eugene, Oreg.	12	Mar. 18	do	15.5	Do.
Harrisburg, Oreg.	10	do	Mar. 21	16.0	Do.
Albany, Oreg.	20	Mar. 20	Mar. 22	25.5	Mar. 22.
Salem, Oreg.	20	do	do	20.8	Mar. 21.
Oregon City, Oreg.	12	do	Mar. 23	13.2	Mar. 22.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, W. F. McDONALD in Charge]

NORTH ATLANTIC OCEAN

By F. A. YOUNG

The pressure situation.—The anticyclonic conditions that prevailed off the coast of and over Europe during the greater part of February, extended into the current month until the 3d, when there was a marked fall in pressure, the barometer at Lerwick reading 28.96 inches on the 6th, which was the lowest recorded at that station during the month. Moderate anticyclonic conditions prevailed in the northeastern section of the ocean during the greater part of the time from the 9th to the 24th. As shown in Table 1, positive departures were recorded at both Reykjavik and Lerwick. By the 26th, however, there was an intrusion of low pressure, that continued until near the end of the month.

The North Atlantic HIGH varied considerably from day to day. It was weakest during the first part of the second decade, and strongest near the end of the month.

There was a marked difference in the pressure distribution between the eastern and western sections of the ocean. As shown in Table 1, practically all the stations on the American coast had negative departures. These were due largely to the very severe storm accompanied by extremely low pressure in the first part of the month, and a second disturbance of lesser intensity during the last decade, both of which will be referred to later.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, March, 1932.*

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland [1]	29.83	(2)	30.48	[3] 1	29.20	26
Reyjavik, Iceland [1]	29.85	+0.17	30.27	1	29.04	4
Lerwick, Shetland Islands [1]	29.88	+0.18	30.46	1	28.97	6
Valencia, Ireland [1]	29.90	0.00	30.32	22	29.10	30
Lisbon, Portugal [1]	29.95	−0.05	30.39	29	29.55	1
Madeira [1]	29.91	−0.10	30.28	29	29.41	12
Horta, Azores [1]	29.96	−0.22	30.40	28	29.34	[3] 12
Belle Isle, Newfoundland [1]	29.48	−0.32	30.24	3	28.66	16
Halifax, Nova Scotia [1]	29.57	−0.39	30.36	24	28.68	8
Nantucket [4]	29.70	−0.28	30.31	24	28.36	7
Hatteras [4]	29.91	−0.13	30.35	30	28.64	6
Bermuda [1]	29.89	−0.25	30.22	[3] 27	29.16	2
Turks Island [1]	30.01	−0.01	30.14	31	29.82	6
Key West [4]	29.98	−0.07	30.22	29	29.48	6
New Orleans [4]	30.02	−0.02	30.45	10	29.50	5
Cape Gracias, Nicaragua [1]	29.91	−0.07	30.00	[3] 15	29.76	[3] 5

[1] All data based on a. m. observations only, with departures compiled from best available normals related to time of observations.
[2] No normal available.
[3] And on other date or dates.
[4] Corrected 24-hour means, based on more than 1 observation.

Cyclones and gales.—The fact that there was a great difference in the pressure distribution between the eastern and western sections of the ocean is shown by the difference of the number of gales reported by vessels in the two sections. East of the thirty-fifth meridian gales were not reported on more than 2 days in any one 5° square, the greater part of them occurring in the last decade of the month, while in the western section the number was fully equal to or above the normal shown on the Pilot Chart.

From the 1st to 4th there was considerable cyclonic activity along the American coast and a number of vessels in the vicinity reported gales of force 8 to 10, accompanied by lowest barometric readings from 28.84 to 29.68 inches.

From the 5th to 8th there occurred one of the severest storms in many years. On the first date it was central near Port Eads, La., the barometer at New Orleans read 29.58 inches, and one vessel near the center reported lowest reading 29.01 inches, highest force of wind S., 10. Charts VIII to XI cover this period, and give a good idea of the track and intensity of the disturbance that was encountered by a number of vessels as shown in table of gales and storms.

On the morning of the 6th the LOW was central near Raleigh, N. C., where a barometer reading of 28.64 inches was recorded. At 2 p. m. on that date the storm center was over Cape Henry, Va., where the barometer read 28.32 inches, and additional warnings of hurricane winds were broadcast for the middle Atlantic and southern New England coasts. As shown in Table 1, Hatteras reported the lowest barometer reading for the month as 28.64 inches on the 6th; Nantucket, 28.36 inches on the 7th, and Halifax, N. S., 28.68 inches on the 8th. New York and Norfolk experienced their lowest readings of 28.51 and 28.35 inches, respectively, on the 6th, while the lowest vessel reading was 28.35 inches from the *Monarch of Bermuda*, as shown in table of gales. At 8 p. m., on the 6th, the storm was over Atlantic City, barometer 28.32 inches. Thence it pursued a northeastward course, accompanied by winds of hurricane force, together with rain and snow, as well as thunderstorms. On the 6th there was also a severe storm off the north coast of Scotland, as shown by report of Danish S. S. *Tennessee* in table.

On the morning of the 7th, Nantucket, with a barometric reading of 28.44 inches, was near the center of the first disturbance, and at the same time the HIGH over the Canadian northwest had increased to 31 inches. This abnormally steep gradient was accompanied by unusually cold weather over a large area, with gales prevailing from the Great Lakes to Virginia.

During the next 24 hours the storm moved northeastward to Nova Scotia, decreasing but little in intensity, while the northwestern HIGH remained above 31 inches. Over the eastern United States high winds prevailed for nearly a week, the LOW remaining nearly stationary after reaching Newfoundland and gradually filling in. This storm caused a great deal of damage both on land and at sea. Extracts from news reports at the end of this article will give some idea of the losses sustained by vessels.

On the 10th and 11th moderate to strong gales were encountered between the Bermudas and American coast, and on the former date in the vicinity of the Azores, while on the 11th a moderate "norther" occurred in the western part of the Gulf of Mexico.

An examination of the table of storms will show that from the 11th until the end of the month there were a number of disturbances, with highest force of wind in some cases as great as 12. Most of these were over the middle and western sections of the ocean, although from the 24th to 30th there was a well developed LOW over the eastern section of the northern steamer lanes, accompanied by winds of force 9 to 12.

On the 28th and 29th a disturbance was over the region between the Bermudas and the American coast with winds of moderate to strong gale force reported from land stations and vessels.

Extracts from news reports

Florida Times Union, April 29, 1932.—Weeks overdue the four-masted schooner *Charles D. Stanford* was given up for lost. The schooner left Venezuela on January 15, and put into Mayport the middle of February. She was last sighted off Cape Hatteras 12 days after leaving Mayport, and has not been heard from since (undoubtedly caught in the storm of March 5 to 8).

New York Maritime Register.—H. F. De Bardeleben (S. S.) was in latitude 39 39 N., longitude 61 50 W., on the morning of March 9, about 280 miles due east of Nantucket. At 9 a. m. March 9 the *Adriatic* (Br.), Freeman, bound to New York remained standing by to render assistance when feasible. The cutter *Beacon* was unable to overtake the vessel and the cutter *Ossipee* was 70 miles away encountering heavy weather. The crew of the *De Barbeleden* was rescued by steamer *Laganbank* (Br.) March 10 and taken to Boston. The cutter *Ossipee* was alongside the disabled vessel March 10. The *H. F. De Bardeleben* sank stern first p. m. March 10 about 700 miles east of New York.

New York Maritime Register.—Am. S. S. *Walter D. Munson* encountered heavy storm off Hatteras on March 6, and took several 44° rolls causing some of the cargo to shift, and being blown 90 miles off her course.

Fog.—The numbers of days on which fog was reported during the month in different localities are as follows: Off the Grand Banks, from 8 to 11 days; along the American coast between the fortieth and forty-fifth parallel, on 8 days; along the steamer lanes, east of the thirty-fifth meridian, from 1 to 4 days; not more than 1 day in any other 5° square.